1.   An air conditioner having in a refrigeration cycle two compression mechanisms of a fixed displacement-type first compression mechanism and a variable displacement-type second compression mechanism independent from each other, and having second compression mechanism displacement control means for controlling a displacement of said second compression mechanism, compression mechanism operation switching control means for switching to an operation by said two compression mechanisms or an operation by any one compression mechanism, an evaporator for refrigerant for cooling air for air conditioning, a condenser for refrigerant, a blower for sending air to said evaporator, and second compression mechanism feedforward compression displacement calculation means for calculating a compression displacement for feedforward control in said second compression mechanism, wherein said second compression mechanism feedforward compression displacement calculation means calculates compression displacements for a time of sole operation of said second compression mechanism and a time of simultaneous operation of said first and second compression mechanisms, respectively, by using second compression mechanism feedforward compression displacement calculating equations different from each other.

2.   The air conditioner according to claim 1, wherein said second compression mechanism feedforward compression displacement calculation means calculates second compression mechanism feedforward compression displacements by referring to a thermal load to said refrigeration cycle for said time of sole operation of said second compression mechanism, and by referring to said thermal load to said refrigeration cycle and a rotational speed of a prime mover which is a drive source of said first compression mechanism or/and a running speed of a vehicle driven by said prime mover for said time of simultaneous operation of said first and second compression mechanisms, respectively.

3. The air conditioner according to claim 2, wherein said thermal load to said refrigeration cycle is calculated by detecting

an outside air temperature, an room interior temperature, an amount of blown air or a physical value having a correlation with said amount of blown air, and an amount of sunshine, or by detecting at least one of those.

4. The air conditioner according to claim 1, wherein said second compression mechanism comprises a variable displacement compression mechanism controlled by a displacement control signal, or a variable displacement compression mechanism controlled by control of rotational speed.

5. An air conditioner having in a refrigeration cycle two compression mechanisms of a fixed displacement-type first compression mechanism and a variable displacement-type second compression mechanism independent from each other, and having second compression mechanism displacement control means for controlling a displacement of said second compression mechanism, compression mechanism operation switching control means for switching to an operation by said two compression mechanisms or an operation by any one compression mechanism, an evaporator for refrigerant for cooling air for air conditioning, a condenser for refrigerant, a blower for sending air to said evaporator, evaporator temperature detection means for detecting a temperature of said evaporator or a temperature of air at an exit of said evaporator, evaporator target temperature calculation means for calculating a target temperature of said evaporator temperature or said evaporator exit air temperature, and second compression mechanism feedback compression displacement calculation means for calculating a feedback compression displacement in said second compression mechanism by referring to a deviation between said evaporator temperature or said evaporator exit air temperature and said target temperature of said evaporator temperature or said evaporator exit

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air temperature, wherein said second compression mechanism feedback compression displacement calculation means calculates feedback compression displacements for a time of sole operation of said second compression mechanism and a time of simultaneous operation of said first and second compression mechanisms, respectively, by using second compression mechanism feedback compression displacement calculating equations with coefficients different from each other.

6.   The air conditioner according to claim 5, wherein said second compression mechanism comprises a variable displacement compression mechanism controlled by a displacement control signal, or a variable displacement compression mechanism controlled by control of rotational speed.

7.   An air conditioner having in a refrigeration cycle two compression mechanisms of a fixed displacement-type first compression mechanism and a variable displacement-type second compression mechanism independent from each other, and having second compression mechanism displacement control means for controlling a displacement of said second compression mechanism, compression mechanism operation switching control means for switching to an operation by said two compression mechanisms or an operation by any one compression mechanism, an evaporator for refrigerant for cooling air for air conditioning, a condenser for refrigerant, a blower for sending air to said evaporator, second compression mechanism feedforward compression displacement calculation means for calculating a compression displacement for feedforward control in said second compression mechanism, evaporator temperature detection means for detecting a temperature of said evaporator or a temperature of air at an exit of said evaporator, evaporator target temperature calculation means for calculating a target temperature of said evaporator temperature or said evaporator exit air temperature, and second compression mechanism feedback compression displacement

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calculation means for calculating a feedback compression displacement in said second compression mechanism by referring to a deviation between said evaporator temperature or said evaporator exit air temperature and said target temperature of said evaporator temperature or said evaporator exit air temperature, wherein said second compression mechanism feedforward compression displacement calculation means calculates compression displacements for a time of sole operation of said second compression mechanism and a time of simultaneous operation of said first and second compression mechanisms, respectively, by using second compression mechanism feedforward compression displacement calculating equations different from each other, and said second compression mechanism feedback compression displacement calculation means calculates feedback compression displacements for a time of sole operation of said second compression mechanism and a time of simultaneous operation of said first and second compression mechanisms, respectively, by using second compression mechanism feedback compression displacement calculating equations with coefficients different from each other.

8.   The air conditioner according to claim 7, wherein, when compressor operation is switched by said compression mechanism operation switching control means from a sole operation of said first compression mechanism to said simultaneous operation of said first compression mechanism and said second compression mechanism, within a predetermined time, said displacement of said second compression mechanism is controlled by said second compression mechanism displacement control means to switch the compressor operation to said simultaneous operation, by referring to only said second compression mechanism feedforward compression displacement without referring to said feedback compression displacement calculated by said second compression mechanism feedback compression displacement calculation means.

9.   The air conditioner according to claim 7, wherein said second compression mechanism feedforward compression displacement calculation means calculates second compression mechanism feedforward compression displacements by referring to a thermal load to said refrigeration cycle for said time of sole operation of said second compression mechanism, and by referring to said thermal load to said refrigeration cycle and a rotational speed of a prime mover which is a drive source of said first compression mechanism or/and a running speed of a vehicle driven by said prime mover for said time of simultaneous operation of said first and second compression mechanisms, respectively.

10.   The air conditioner according to claim 8, wherein said predetermined time is calculated by a thermal load to said refrigeration cycle and a rotational speed of a prime mover which is a drive source of said first compression mechanism or/and a running speed of a vehicle driven by said prime mover.

11.   The air conditioner according to claim 9, wherein said thermal load to said refrigeration cycle is calculated by detecting an outside air temperature, an room interior temperature, an amount of blown air or a physical value having a correlation with said amount of blown air, and an amount of sunshine, or by detecting at least one of those.

12.   The air conditioner according to claim 7, wherein said second compression mechanism comprises a variable displacement compression mechanism controlled by a displacement control signal, or a variable displacement compression mechanism controlled by control of rotational speed.